

\* \* \* \* \* STN Columbus \* \* \* \* \*

FILE 'HOME' ENTERED AT 11:21:06 ON 26 JUL 2000

=> file medline, biosis, embase, caplus, uspatfull

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.15	0.15

FILE 'MEDLINE' ENTERED AT 11:21:43 ON 26 JUL 2000

FILE 'BIOSIS' ENTERED AT 11:21:43 ON 26 JUL 2000  
COPYRIGHT (C) 2000 BIOSIS(R)

FILE 'EMBASE' ENTERED AT 11:21:43 ON 26 JUL 2000  
COPYRIGHT (C) 2000 Elsevier Science B.V. All rights reserved.

FILE 'CAPLUS' ENTERED AT 11:21:43 ON 26 JUL 2000  
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.  
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.  
COPYRIGHT (C) 2000 AMERICAN CHEMICAL SOCIETY (ACS)

FILE 'USPATFULL' ENTERED AT 11:21:43 ON 26 JUL 2000  
CA INDEXING COPYRIGHT (C) 2000 AMERICAN CHEMICAL SOCIETY (ACS)

=> s (flt4 (s) ligand) (p) antibody

L1 5 (FLT4 (S) LIGAND) (P) ANTIBODY

=> dup rem l1

PROCESSING COMPLETED FOR L1

L2 4 DUP REM L1 (1 DUPLICATE REMOVED)

=> d l2 total ibib kwic

L2 ANSWER 1 OF 4 USPATFULL

ACCESSION NUMBER: 1999:110189 USPATFULL

TITLE: Chimeric receptors as inhibitors of vascular  
endothelial growth factor activity, and processes for  
their production

INVENTOR(S): Davis-Smyth, Terri Lynn, Foster City, CA, United  
States

Chen, Helen Hsifei, Daly City, CA, United States  
Presta, Leonard, San Francisco, CA, United States  
Ferrara, Napoleone, San Francisco, CA, United States  
PATENT ASSIGNEE(S): Genentech, Inc., S. San Francisco, CA, United States  
(U.S. corporation)

	NUMBER	DATE
PATENT INFORMATION:	US 5952199	19990914
APPLICATION INFO.:	US 1997-874678	19970613 (8)
RELATED APPLN. INFO.:	Division of Ser. No. US 1996-643839, filed on 7 May 1996	
DOCUMENT TYPE:	Utility	
PRIMARY EXAMINER:	Feisee, Lila	
ASSISTANT EXAMINER:	Kaufman, Claire M.	

LEGAL REPRESENTATIVE: Johnston, Sean; Vance, Dolores A. Flehr Hohbach Test  
Albritton & Herbert LLP

NUMBER OF CLAIMS: 13  
EXEMPLARY CLAIM: 1  
NUMBER OF DRAWINGS: 10 Drawing Figure(s); 7 Drawing Page(s)  
LINE COUNT: 2658

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

DETD . . . . expressing 293 cells were deprived of serum 16-18 hrs prior to stimulation by a given factor. Cells were stimulated with **FLT4 ligand** (VH1.4.5; VEGF-C/VRP) at a concentration of 400 ng/ml, 50 ng/ml VEGF, or 0.5 nM PLGF for 15 minutes at 37.degree.. . . 1 ml lysis buffer. The lysate was cleared of cellular debris and the receptors were immunoprecipitated using JTL.1, a polyclonal **antibody** directed against the extracellular domain of the **FLT4** receptor (see Lee et. al., Proc. Natl. Acad. Sci USA, 93:1988-1992 (1996)). The immunoprecipitates were then subjected to western gel/blot analysis using the 4G10 anti-phosphotyrosine monoclonal

**antibody** (UBI, Lake Placid, N.Y.). Immunoreactive bands were visualized with an ABC kit according to manufacturers directions (Vector Laboratories).

L2 ANSWER 2 OF 4 CAPLUS COPYRIGHT 2000 ACS DUPLICATE 1

ACCESSION NUMBER: 1998:471458 CAPLUS  
DOCUMENT NUMBER: 129:119594  
TITLE: Cloning and cDNA sequences of human FLT4 receptor tyrosine kinase isoforms and stimulator ligand  
INVENTOR(S): Alitalo, Kari; Aprelikova, Olga; Pajusola, Katri; Armstrong, Elina; Korhonen, Jaana; Kaipainen, Arja  
PATENT ASSIGNEE(S): Helsinki University Licensing, Ltd., Finland  
SOURCE: U.S., 65 pp. Cont.-in-part of U. S. Ser. No. 959,951, abandoned.

CODEN: USXXAM

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5776755	A	19980707	US 1994-340011	19941114
WO 9833917	A1	19980806	WO 1998-US1973	19980202
W: AU, CA, CN, JP, NZ, US, US, US, US, US, US, US				
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT,				

SE

AU 9862624	A1	19980825	AU 1998-62624	19980202
EP 972028	A1	20000119	EP 1998-904842	19980202
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				

PRIORITY APPLN. INFO.:

US 1992-959951	19921009
US 1994-340011	19941114
US 1995-510133	19950801
US 1996-585895	19960112
US 1996-601132	19960214
US 1996-671573	19960628
WO 1996-FI427	19960801
US 1997-795430	19970205
WO 1998-US1973	19980202

IT **Antibodies**

RL: ARG (Analytical reagent use); BPN (Biosynthetic preparation); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)

(cloning and cDNA sequences of human **FLT4** receptor tyrosine kinase isoforms and stimulator ligand)

L2 ANSWER 3 OF CAPLUS COPYRIGHT 2000 ACS  
 ACCESSION NUMBER: 1997:278962 CAPLUS  
 DOCUMENT NUMBER: 126:247137  
 TITLE: VRP: a protein tyrosine kinase Flt4 ligand related to  
 vascular endothelial growth factor  
 INVENTOR(S): Lee, James; Wood, William  
 PATENT ASSIGNEE(S): Genentech, Inc., USA  
 SOURCE: PCT Int. Appl., 68 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9709427	A1	19970313	WO 1996-US14075	19960830
W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, UZ, VN, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM				
AU 9670128	A1	19970327	AU 1996-70128	19960830
AU 710696	B2	19990930		
EP 848755	A1	19980624	EP 1996-931450	19960830
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
JP 11514976	T2	19991221	JP 1996-511317	19960830
PRIORITY APPLN. INFO.: US 1995-3491 19950908				
WO 1996-US14075 19960830				

IT **Antibodies**

Monoclonal **antibodies**

RL: BSU (Biological study, unclassified); BIOL (Biological study)  
 (to VRP; VRP: protein tyrosine kinase **Flt4 ligand**  
 related to vascular endothelial growth factor)

L2 ANSWER 4 OF 4 CAPLUS COPYRIGHT 2000 ACS  
 ACCESSION NUMBER: 1997:240615 CAPLUS  
 DOCUMENT NUMBER: 126:221078  
 TITLE: A tyrosine phosphorylation-stimulating ligand,  
 VEGF-C,

for the FLT4 receptor tyrosine kinase and a cDNA  
 encoding it

INVENTOR(S): Alitalo, Kari; Joukov, Vladimir  
 PATENT ASSIGNEE(S): Helsinki University Licensing Ltd. Oy, Finland;  
 Alitalo, Kari; Joukov, Vladimir

SOURCE: PCT Int. Appl., 183 pp.  
 CODEN: PIXXD2

DOCUMENT TYPE: Patent  
 LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9705250	A2	19970213	WO 1996-FI427	19960801
WO 9705250	A3	19970410		
W: AU, CA, CN, JP, NO, NZ, US				
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
CA 2228248	AA	19970213	CA 1996-2228248	19960801
AU 9666169	A1	19970226	AU 1996-66169	19960801
AU 711578	B2	19991014		
EP 842273	A2	19980520	EP 1996-925768	19960801

R: AT, CH, DE, DK, ES, FR, GB, GR, IE, LI, LU, NL, SE, MC, PT,  
JP 11510689 T2 19990921 JP 1996-507262 19960801  
CN 1242043 A 20000119 CN 1996-197353 19960801  
WO 9833917 A1 19980806 WO 1998-US1973 19980202  
W: AU, CA, CN, JP, NZ, US, US, US, US, US, US, US  
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT,  
SE

AU 9862624 A1 19980825 AU 1998-62624 19980202  
EP 972028 A1 20000119 EP 1998-904842 19980202

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,  
IE, FI

PRIORITY APPLN. INFO.:

US 1995-510133 19950801  
US 1996-585895 19960112  
US 1996-601132 19960214  
US 1996-671573 19960628  
US 1994-340011 19941114  
WO 1996-FI427 19960801  
US 1997-795430 19970205  
WO 1998-US1973 19980202

IT **Antibodies**

Monoclonal antibodies

RL: BSU (Biological study, unclassified); BIOL (Biological study)  
(to **FLT4** ligand VEGF-C; tyrosine  
phosphorylation-stimulating ligand, VEGF-C, for **FLT4**  
receptor tyrosine kinase and cDNA encoding it)

=> d his

(FILE 'HOME' ENTERED AT 11:21:06 ON 26 JUL 2000)

FILE 'MEDLINE, BIOSIS, EMBASE, CAPLUS, USPATFULL' ENTERED AT 11:21:43 ON  
26 JUL 2000

L1 5 S (FLT4 (S) LIGAND) (P) ANTIBODY  
L2 4 DUP REM L1 (1 DUPLICATE REMOVED)

=> s (flt4 (s) ligand) (p) cancer

L3 0 (FLT4 (S) LIGAND) (P) CANCER

=> s flt4 (s) inhibitor

L4 5 FLT4 (S) INHIBITOR

=> dup rem

ENTER L# LIST OR (END):L4

PROCESSING COMPLETED FOR L4

L5 5 DUP REM L4 (0 DUPLICATES REMOVED)

=> d l5 total ibib kwic

L5 ANSWER 1 OF 5 CAPLUS COPYRIGHT 2000 ACS

ACCESSION NUMBER: 2000:260057 CAPLUS

DOCUMENT NUMBER: 132:298824

TITLE: Flt4 (VEGFR-3) as a target for tumor imaging and  
anti-tumor therapy

INVENTOR(S): Alitalo, Kari; Kaipainen, Arja; Valltola, Reija;  
Jussila, Lotta

PATENT ASSIGNEE(S): Ludwig Institute for Cancer Research, USA; Helsinki  
University Licensing Ltd. Oy

SOURCE: PCT Int. Appl., 148 pp.

DOCUMENT TYPE:

CODEN: PIXXD2

LANGUAGE:

Patent

FAMILY ACC. NUM. COUNT: 1

English

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000021560	A1	20000420	WO 1999-US23525	19991008
W: AU, CA, CN, JP, NO, NZ				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				

PRIORITY APPLN. INFO.:

US 1998-169079 19981009

REFERENCE COUNT:

3

REFERENCE(S):

- (1) Alitalo, K; WO 9533772 A 1995
- (2) Helsinki University Licensing; WO 9705250 A 1997
- (3) Joukov, V; THE EMBO JOURNAL 1996, V15(2), P290  
CAPLUS

IT Mammary gland

(carcinoma, **inhibitors**; **Flt4** (VEGFR-3) as a target  
for tumor imaging and anti-tumor therapy)

L5 ANSWER 2 OF 5 USPATFULL

ACCESSION NUMBER: 2000:18280 USPATFULL

TITLE: Nucleic acid sequence of senescence associated gene

INVENTOR(S): Funk, Walter, Hayward, CA, United States

PATENT ASSIGNEE(S): Geron Corporation, Menlo Park, CA, United States (U.S. corporation)

	NUMBER	DATE
PATENT INFORMATION:	US 6025194	20000215
APPLICATION INFO.:	US 1997-974180	19971119 (8)
DOCUMENT TYPE:	Utility	
PRIMARY EXAMINER:	Huff, Sheela	
ASSISTANT EXAMINER:	Bansal, Geetha P.	
LEGAL REPRESENTATIVE:	Earp, David J.; Kaster, Kevin	
NUMBER OF CLAIMS:	10	
EXEMPLARY CLAIM:	1,6	
LINE COUNT:	4667	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

DETD . . . cyclin B1

H41433 302484 protein kinase C zeta  
W38932 304843 heme oxygenase 2  
W38689 305014 omithine decarboxylase  
W39150 305149 IAP (**inhibitor** of apoptosis)  
N91919 306848 mineralocorticoid receptor  
W24300 306951 retinol-binding protein I, cellular  
N95176 307293 rap-1A (ras related protein)  
N92931 307710 . . . sapiens 5,10-methenyltetrahydrofolate synthetase  
AA033966 429883 cytochrome P450 IIC8  
AA034057 429925 a-1 acid glycoprotein  
AA034051 429926 APC  
AA033993 429934 DNA-binding protein **inhibitor** ID-2  
T91369 116501 flk-1/KDR (VEGF receptor 2)  
AA034015 430006 dermatopontin  
AA026197 469275 prostaglandin-I synthase (prostacyclin synthase)  
AA027039 469378 TNF initial. . . AA044619 486757 cathepsin K  
AA043226 486785 plasminogen  
AA045303 487092 interferon-inducible protein 1-8D  
AA043718 487341 endothelin receptor  
AA046659 487394 plasminogen activator **inhibitor**-1 (PAI-1)  
AA046720 487416 IGF Binding Protein 4  
AA044993 487513 connective tissue growth factor precursor  
AA045364 487811 peptidyl-glycine alpha-amidating monooxygenase (PAM)  
. . . 488891 ubiquitin-conjugating enzyme E2-17KD (RAD6-B)

AA047379 488932 importin-beta  
 AA046892 488974 defender against cell death 1  
 AA047092 488999 protein kinase C inhibitor  
 AA047161 489042 CD30  
 AA057189 489055 RhoG  
 AA058523 489327 Human mRNA for raf oncogene  
 AA058472 489366 IGF binding protein 1  
 AA101829. . . AA293368 726153 Ku (70kDa subunit)  
 AA397905 726506 Thrombin receptor  
 AA394212 726536 tristetraproline (zinc-finger transcriptional regulator)  
 AA398273 726722 tyrosine-protein kinase receptor **FLT4** (VEGF3  
 receptor)  
 AA398424 726898 reticulin  
 AA435903 728710 COUP transcription factor (V-erbA related ear-3  
 protein)  
 AA398782 729256 cap-binding protein eIF-4E  
 AA421225. . . FHF4  
 AA400276 742657 heparin-binding EGF-like growth factor  
 AA411316 755032 MAD2  
 AA423811 755456 IGF binding protein 2  
 AA496426 755832 placental ribonuclease/angiogenin inhibitor  
 AA496611 755964 natriuretic peptide receptor  
 AA482111 756377 collagenase inhibitor  
 AA429058 756936 monoamine oxidase  
 AA496096 757144 Activin B-c chain  
 AA442853 757873 P35 regulatory subunit of CDK5  
 AA393689 758424 AKT (rac. . .

L5 ANSWER 3 OF 5 USPATFULL

ACCESSION NUMBER: 1999:155460 USPATFULL  
 TITLE: Methods of assaying differential expression  
 INVENTOR(S): Chenchik, Alex, Palo Alto, CA, United States  
 Jokhadze, George, Mountain View, CA, United States  
 Bibilashvilli, Robert, Moscow, Russian Federation  
 PATENT ASSIGNEE(S): Clontech Laboratories, Inc., Palo Alto, CA, United  
 States (U.S. corporation)

	NUMBER	DATE
PATENT INFORMATION:	US 5994076	19991130
APPLICATION INFO.:	US 1997-859998	19970521 (8)
DOCUMENT TYPE:	Utility	
PRIMARY EXAMINER:	Fredman, Jeffrey	
LEGAL REPRESENTATIVE:	Bozicevic & Reed LLP; Field, Bret E.	
NUMBER OF CLAIMS:	17	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	2 Drawing Figure(s); 1 Drawing Page(s)	
LINE COUNT:	13450	
CAS INDEXING IS AVAILABLE FOR THIS PATENT.		
DETD		NO.144

CCCTGTAAACATGAGAATGGGCTCGTGACA 30

TYROSINE KINASE, RECEPTOR TIE  
 SEQ ID NO.145

CTACAGTGTCTATACCAAGAGTGATGTC  
 31

- SEQ ID NO.146 GGCTGTAAGGGTCAGACTGGTCACAGGTTA 30

TYROSINE KINASE, RECEPTOR **FLT4**, CLASS III  
 SEQ ID NO.147

CAGGTGCTTCCCAGACACTGGCGTTACT  
 28

- SEQ ID NO.148 ACTCATATTACCAAGGAATAACTGGCGGGCA 31

HELIX-LOOP-HELIX PROTEIN 1R21  
 SEQ ID NO.149

TGAGTCAAGTGGGCAGGGCGAAGTTGG

28

- . . . - SEQ ID NO.202

GGGATCAGTCCTTGAATCCCTGAATACTGCA 31

HAES-1

SEQ ID NO.203

GACTCCTGCGACCGCATCAAAGACGAATTT

30

- SEQ ID NO.204

GCTGTCTGGATGATAGAGTTCAGCTCGGGA 29

DNA-BINDING PROTEIN/PLASMINOGEN ACTIVATOR INHIBITOR-1 REGULATOR

SEQ ID NO.205

CCTCTTGTCATCCCACTCAGCGCCATGT

28

- SEQ ID NO.206

CTCCCGTGTAATAGCGTAGTCCAACCACAT 30

INTERFERON, GAMMA RECEPTOR

SEQ ID NO.207

ACGTTCCACAGGGCCAGGTGAGCTTTCT

28

- SEQ. . .

L5 ANSWER 4 OF 5 USPATFULL

ACCESSION NUMBER: 1998:79002 USPATFULL

TITLE: FLT4, a receptor tyrosine kinase

INVENTOR(S): Alitalo, Kari, Espoo, Finland

Aprelikova, Olga, Helsinki, Finland

Pajusola, Katri, Helsinki, Finland

Armstrong, Elina, Helsinki, Finland

Korhonen, Jaana, Helsinki, Finland

Kaipainen, Arja, Helsinki, Finland

PATENT ASSIGNEE(S): Helsinki University Licensing, Ltd., Helsinki, Finland  
(non-U.S. corporation)

NUMBER

DATE

PATENT INFORMATION: US 5776755 19980707

APPLICATION INFO.: US 1994-340011 19941114 (8)

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 1992-959951, filed  
on 9 Oct 1992, now abandoned

DOCUMENT TYPE: Utility

PRIMARY EXAMINER: Patterson, Jr., Charles L.

ASSISTANT EXAMINER: Moore, William W.

LEGAL REPRESENTATIVE: Marshall, O'Toole, Gerstein, Murray & Borun

NUMBER OF CLAIMS: 45

EXEMPLARY CLAIM: 1

NUMBER OF DRAWINGS: 32 Drawing Figure(s); 23 Drawing Page(s)

LINE COUNT: 2570

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

SUMM The present invention also provides a cell line source for the ligand  
of

the **FLT4** receptor tyrosine kinase. Using the conditioned  
medium from these cells the **FLT4** ligand may be purified and  
cloned by using methods standard in the art. Using this conditioned  
medium an assay system for **FLT4** ligand and dimerization

**inhibitors** as well as **inhibitors** of **FLT4**

signal transduction are obtained, which allow for identification and  
preparation of such **inhibitors**.

SUMM The identification of **FLT4** stimulating ligand makes it  
directly possible to assay for **inhibitors** of this ligand or

**inhibitors** of **FLT4** function. Such **inhibitors**

are simply added to the conditioned media containing the **FLT4**  
ligand and if they inhibit autophosphorylation, they act as **FLT4**  
signalling **inhibitors**. For example, synthetic peptides may be  
assayed for inhibition of **FLT4**-ligand interaction or

**FLT4** dimerization. Such putative **inhibitors** of

**FLT4** and, in addition, antibodies against the **FLT4** ligand, peptides or other compounds blocking **FLT4** receptor-ligand interaction, as well as antisense oligonucleotides complementary to the sequence of mRNA encoding the **FLT4** ligand are useful in the regulation of endothelial cells and in the treatment of diseases associated with endothelial cell function.

DETD The polyclonal antibodies against the **FLT4** C-terminus have been described in Pajusola et al., of record. For immunoprecipitation, the supernatants were incubated for 2 hours on ice with 2 to 4 ml of rabbit polyclonal anti-**FLT4** antiserum. About 30 ml of a 50% (vol/vol) solution of protein A-Sepharose (Pharmacia) in PBS was added and incubation was. . . at 50.degree. C. in 100 mM

2-mercaptoethanol, 2% SDS, 62.5 mM Tris-HCl pH 6.7 with occasional agitation and restained with anti-**FLT4** antibodies (1:1000 dilution) followed by staining with peroxidase-conjugated swine anti-rabbit antibodies

(1:1000 dilution, Dako, P217). As a positive control for the tyrosine phosphorylation of **FLT4**, anti-**FLT4** immunoprecipitates from the **FLT4** expressing NIH3T3 cells treated with 100 mM of the tyrosyl phosphatase inhibitor sodium pervanadate (PerVO4) for 20 minutes were used. Treatment of

cells with Sodium pervanadate was done by addition of 100. . . CO.sub.2. That procedure resulted in the generation of the peroxidized form of vanadate (vanadyl hydroperoxide), which is a very potent inhibitor of the protein tyrosine phosphatases in living cells.

L5 ANSWER 5 OF 5 CAPLUS COPYRIGHT 2000 ACS

ACCESSION NUMBER: 1997:776257 CAPLUS

DOCUMENT NUMBER: 128:47303

TITLE: Chimeric forms of vascular endothelial growth factor receptor proteins as novel inhibitors of vascular endothelial growth factor activity

INVENTOR(S): Davis-Smyth, Terri Lynn; Chen, Helen Hsifei; Presta, Leonard; Ferrara, Napoleone

PATENT ASSIGNEE(S): Genentech, Inc., USA; Davis-Smyth, Terri Lynn; Chen, Helen Hsifei; Presta, Leonard; Ferrara, Napoleone

SOURCE: PCT Int. Appl., 62 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9744453	A1	19971127	WO 1997-US7694	19970506
W:	AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG			
AU 9730604	A1	19971209	AU 1997-30604	19970506
AU 717112	B2	20000316		
EP 907733	A1	19990414	EP 1997-925475	19970506
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI			
JP 2000502357	T2	20000229	JP 1997-542429	19970506
US 5952199	A	19990914	US 1997-874678	19970613
PRIORITY APPLN. INFO.:			US 1996-643839	19960507
			WO 1997-US7694	19970506

IT Proteins (specific proteins and subclasses)



RL: BAC (Biological activity or effector, except adverse); BPN  
(Biosynthetic preparation); BIOL (Biological body); PREP (Preparation)  
(gene **FLT4**, fusion products with Ig-like ligand-binding  
domains of VEGF receptors; chimeric forms of vascular endothelial  
growth factor receptor proteins as novel **inhibitors** of  
vascular endothelial growth factor activity)

=> log y

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

23.74

23.89

STN INTERNATIONAL LOGOFF AT 11:26:03 ON 26 JUL 2000

not to be used

112.22 g/bt stt

- Contingent by

is it necessary

```

Query Match      100.0%;   Score 145;   DB 20;   Length 419;
Best Local Similarity 100.0%;   Pred. No. 1.2e-13;
Matches      29;   Conservative      0;   Mismatches      0;   Indels      0;   Gaps      0;

Qy      1  GPREAPAAAAAFESGLDLSDAEPDAGEAT 29
      |||
Db      21 gpreapaaaaafesgldlsdaepdageat 49

```

```

RESULT      2
US-09-042-105-2
; Sequence 2, Application US/09042105
; Patent No. 6040157
; GENERAL INFORMATION:
;   APPLICANT:  HU, JING-SHAN
;   APPLICANT:  ROSEN, CRAIG A.
;   APPLICANT:  CAO, LIANG

```

```

; TITLE OF INVENTION: VASCULAR ENDOTHELIAL GROWTH FACTOR 2
; NUMBER OF SEQUENCES: 35
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: STERNE, KESSLER, GOLDSTEIN & FOX
; STREET: 1100 NEW YORK AVENUE
; CITY: WASHINGTON
; STATE: DC
; COUNTRY: USA
; ZIP: 20005
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/042,105
; FILING DATE: HEREWITH
; CLASSIFICATION:
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 08/207,550
; FILING DATE: 8-MAR-1994
; CLASSIFICATION:
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 08/465,968
; FILING DATE: 06-JUN-1995
; CLASSIFICATION:
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: TO BE ASSIGNED
; FILING DATE: 24-DEC-1997
; CLASSIFICATION:
; ATTORNEY/AGENT INFORMATION:
; NAME: ERIC K. STEFFE
; REGISTRATION NUMBER: 36,688
; REFERENCE/DOCKET NUMBER: 1488.1000003/EKS
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (202)371-2600
; TELEFAX: (202)371-2540
; INFORMATION FOR SEQ ID NO: 2:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 419 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-09-042-105-2

```

```

Query Match          100.0%; Score 145; DB 3; Length 419;
Best Local Similarity 100.0%; Pred. No. 4.7e-14;
Matches 29; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```

```

Qy      1 GPREAPAAAAAFESGLDLSDAEPDAGEAT 29
        ||||||||||||||||||||||||||||
Db      21 GPREAPAAAAAFESGLDLSDAEPDAGEAT 49

```



# Sequence Comparison C

## SEQ ID NO: 3 amino acids 21-157

PN US5932540-A.  
 XX  
 PD 03-AUG-1999.  
 XX  
 PF 24-DEC-1997; 97US-0999811.  
 XX  
 PR 24-DEC-1997; 97US-0999811.  
 PR 08-MA PN US5932540-A.  
 XX  
 PD 03-AUG-1999.  
 XX  
 PF 24-DEC-1997; 97US-0999811.  
 XX  
 PR 24-DEC-1997; 97US-0999811.  
 PR 08-MAR-1994; 94US-0207550.  
 PR 06-JUN-1995; 95US-0465968.  
 XX  
 PA (HUMA-) HUMAN GENOME SCI INC.  
 XX  
 PI Cao L, Hu J, Rosen CA;  
 XX  
 DR WPI; 1999-443606/37.  
 DR N-PSDB; X84837.  
 XX  
 PT Vascular endothelial growth factor 2 for wound healing and vascular repair  
 XX  
 PS Claim 1; Fig 1; 49pp; English.  
 XX  
 CC This sequence is the vascular endothelial growth factor 2 (VEGF2),  
 CC of the invention. The isolated polypeptide is useful for stimulating  
 CC angiogenesis, by promoting the proliferation of endothelial cells, for  
 CC the treatment of a wound, or for the treatment of tissue or bone damage.  
 XX  
 SQ Sequence 419 AA;

Query Match 99.0%; Score 721; DB 20; Length 419;  
 Best Local Similarity 99.3%; Pred. No. 2.2e-74;  
 Matches 136; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 1 GPREAPAAAAFESGLDLSDAEPDAGEATAYASKDLEEQLRSVSSVDELMTVLYPEYWKM 60  
 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||  
 Db 21 gpreapaaaaafesgldlsdaepdageatayaskdleeqlrsvssvdelmtvlypeywkm 80  
 Qy 61 YKCQLRKGGWQHNRQANLNSRTEETIKFAAAHTNTEILKSIDNEWKRTQCMPREVCIDV 120  
 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||  
 Db 81 ykcqlrkggwqhnrqanlnsrteetikfaaahynteilksidnewrktqcmprevcidv 140  
 Qy 121 GKEFGVATNTFFKPPCV 137  
 ||||||||||||||||  
 Db 141 gkefgvatntffkppcv 157

# Sequence Comparison D

## SEQ ID NO: 3 amino acids 21-419

PN US5932540-A.  
 XX  
 PD 03-AUG-1999.  
 XX  
 PF 24-DEC-1997; 97US-0999811.  
 XX  
 PR 24-DEC-1997; 97US-0999811.  
 PR 08-MAR-1994; 94US-0207550.  
 PR 06-JUN-1995; 95US-0465968.  
 XX  
 PA (HUMA-) HUMAN GENOME SCI INC.  
 XX  
 PI Cao L, Hu J, Rosen CA;  
 XX  
 DR WPI; 1999-443606/37.  
 DR N-PSDB; X84837.  
 XX  
 PT Vascular endothelial growth factor 2 for wound healing and vascular repair  
 XX  
 PS Claim 1; Fig 1; 49pp; English.  
 XX  
 CC This sequence is the vascular endothelial growth factor 2 (VEGF2),  
 CC of the invention. The isolated polypeptide is useful for stimulating  
 CC angiogenesis, by promoting the proliferation of endothelial cells, for  
 CC the treatment of a wound, or for the treatment of tissue or bone damage.  
 XX  
 SQ Sequence 419 AA;

Query Match 99.5%; Score 2224; DB 20; Length 419;  
 Best Local Similarity 99.5%; Pred. No. 1.9e-162;  
 Matches 397; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Qy	1	GPREAPAAAAAFESGLDLSDAEPDAGEATAYASKDLEEQLRSVSSVDELMTVLYPEYWKM	60
Db	21	gpreapaaaaafesgldlsdaepdageatayaskdleeqlrsvssvdelmtvlypeywkM	80
Qy	61	YKQLRKGGWQHNRQANLNSRTEETIKFAAAHTNTEILKSIDNEWRTQCMPREVCIDV	120
Db	81	ykcqlrkggwqhnreqanlnsrteetikfaaahynteilksidnewrktqcmprevcidv	140
Qy	121	GKEFGVATNTFFKPPCVSVYRCGGCCNSEGLQCMNTSTSYLSKTLFEITVPLSQGPKPVT	180
Db	141	gkefgvatntffkppcvsvyrcggccnseglqcmntstsylsktlfeitvplsqqgpkpvt	200
Qy	181	ISFANHTSCRCMSKLDVYRQVHSIIRRSPLATLPQCQAANKTCPTNYMWNHICRCLAQE	240
Db	201	isfanhtscrcmskldvyrqvhsiirrsplatlpcqaanktcptnymwnnhicrclaqe	260
Qy	241	DFMFSSDAGDDSTDGFDICGPNKELDEETCQCVCVCRAGLRPASCgPHKELDRNSCQCVCCK	300
Db	261	dfmfssdagddstdgfhdicgpnkeldeetcqcvcvcraglrpascgphkeldrnscqcvcck	320
Qy	301	NKLFPSQCGANREFDENTCQCVCCKRTCPRNQPLNPGKCACECTESPQKCLLKGGKFHHQT	360
Db	321	nklfpsqcganrefdentcqcvcckrtcprnqplnpgkacectespqkcllkggkfhhqt	380
Qy	361	CSCYRRPCTNRQKACEPGFSYSEEVCRCPVPSYWKRPQMS	399
Db	381	cscyrrpctnrqkacepgfsyseevcrvpsywqrpqms	419

09313 299

SEQ ID NO: 3 21-49

RESULT 4

W13833

ID W13833 standard; Protein; 419 AA.

XX

AC W13833;

XX

DT 05-JUN-1997 (first entry)

XX

DE Human vascular endothelial growth factor-related protein VRP.

XX

KW Vascular endothelial growth factor-related protein; VRP; VEGF;  
KW receptor protein tyrosine kinase; Flt4; signal transduction;  
KW wound healing; vulnery; rheumatoid arthritis; Kaposi's sarcoma;  
KW therapy; diagnosis; angiogenesis; monoclonal antibody.

XX

OS Homo sapiens.

XX

FH Key Location/Qualifiers

FT Peptide 1..20

FT /label= Sig\_peptide

FT Protein 20..419

FT /label= Mat\_protein

FT Misc-difference 114

FT /note= "deduced residue from nucleotide sequence  
is tyrosine"

XX

PN WO9709427-A1.

XX

PD 13-MAR-1997.

XX

PF 30-AUG-1996; 96WO-US14075.

XX

PR 08-SEP-1995; 95US-0003491.

XX

PA (GETH ) GENENTECH INC.

XX

PI Lee J, Wood W;

XX

DR WPI; 1997-192902/17.

DR N-PSDB; T59929.

XX

PT Human protein similar to vascular endothelial growth factor - used  
PT to treat e.g. wounds, tumours, rheumatoid arthritis, Kaposi's  
PT sarcoma etc.

XX

PS Claim 6; Fig 1A-D; 68pp; English.

XX

CC A human vascular endothelial growth factor (VEGF)-related protein  
CC (VRP) (W13833) has been identified that binds to, and stimulates  
CC the phosphorylation of, the receptor tyrosine kinase Flt4. It is  
CC postulated to be a third member of the VEGF protein family. Its  
CC amino acid sequence was deduced from a cDNA clone (T59929) obtd.  
CC from a glioma G61 library. Recombinant VRF can be produced in  
CC transformed host cells and used: to promote growth of vascular and  
CC lymph endothelial cells; to stimulate phosphorylation of the  
CC tyrosine kinase domain of a Flt4 receptor; as a diagnostic; as an  
CC additive to cell cultures; to screen for (ant)agonists: and to  
CC raise monoclonal antibodies used to treat conditions associated  
CC with excessive neovascularisation or vascular permeability. VRP  
CC may make it possible to avoid coronary by-pass surgery by  
CC stimulating growth of the collateral circulation.

XX

SQ Sequence 419 AA;

Query Match 100.0%; Score 145; DB 18; Length 419;  
Best Local Similarity 100.0%; Pred. No. 1.2e-13;  
Matches 29; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```

RESULT 1
US-08-999-811-2
; Sequence 2, Application US/08999811
; Patent No. 5932540
; GENERAL INFORMATION:
; APPLICANT: HU, JING-SHAN
; APPLICANT: ROSEN, CRAIG A.
; APPLICANT: CAO, LIANG
; TITLE OF INVENTION: VASCULAR ENDOTHELIAL GROWTH FACTOR 2
; NUMBER OF SEQUENCES: 15
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: STERNE, KESSLER, GOLDSTEIN & FOX
; STREET: 1100 NEW YORK AVENUE
; CITY: WASHINGTON
; STATE: DC
; COUNTRY: USA
; ZIP: 20005
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/999,811
; FILING DATE: HEREWITH
; CLASSIFICATION:
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 08/207,550
; FILING DATE: 8-MAR-1994
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 08/465,968
; FILING DATE: 06-JUN-1995
; ATTORNEY/AGENT INFORMATION:
; NAME: MARKOWICZ, KAREN R.
; REGISTRATION NUMBER: 36,351
; REFERENCE/DOCKET NUMBER: 1488.1000004
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (202)371-2600
; TELEFAX: (202)371-2540
; INFORMATION FOR SEQ ID NO: 2:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 419 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-08-999-811-2

```

Query Match 100.0%; Score 145; DB 2; Length 419;  
Best Local Similarity 100.0%; Pred. No. 4.7e-14;  
Matches 29; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 GPREAPAAAAAFESGLDLSDAEPDAGEAT 29  
 |||  
 Db 21 GPREAPAAAAAFESGLDLSDAEPDAGEAT 49

SEQ ID NO: 3 1-49

```

RESULT      3
W17837
ID      W17837  standard; Protein; 419 AA.
XX
AC      W17837;

```



XX  
 DT 13-JAN-1998 (first entry)  
 XX  
 DE Human foetal liver kinase A binding protein flk-1bp.  
 XX  
 KW Foetal liver kinase 1 binding protein; human; flk-1bp;  
 KW receptor tyrosine kinase; vasculogenesis; angiogenesis;  
 KW wound healing; tumour; therapy; antagonist; antibody.  
 XX  
 OS Homo sapiens.  
 XX  
 FH Key Location/Qualifiers  
 FT Peptide 1..20  
 FT /label= Sig\_peptide  
 FT Protein 21..419  
 FT /label= Mat\_protein  
 FT /note= "(Claim 10)"  
 FT Peptide 21..35  
 FT /label= N-terminal  
 FT /note= "(Claim 9)"  
 XX  
 PN WO9717442-A1.  
 XX  
 PD 15-MAY-1997.  
 XX  
 PF 05-NOV-1996; 96WO-US17584.  
 XX  
 PR 08-NOV-1995; 95US-0554374.  
 XX  
 PA (IMMV ) IMMUNEX CORP.  
 XX  
 PI Lyman SD;  
 XX  
 DR WPI; 1997-281031/25.  
 DR N-PSDB; T68811.  
 XX  
 PT DNA encoding a human foetal liver kinase 1 binding protein - used  
 PT to treat conditions with insufficient protein, deliver agents to  
 PT cells and identify antagonists to treat protein-mediated conditions  
 XX  
 PS Claim 1; Page 30-32; 43pp; English.  
 XX  
 CC This polypeptide comprises a human foetal liver kinase 1 binding  
 CC protein (flk-1bp) (see W17837) that binds to the receptor tyrosine  
 CC kinase flk-1 expressed on vascular endothelial and other cells.  
 CC The mature flk1-bp can be secreted from host cells transformed with  
 CC an expression vector including an isolated flk-1bp cDNA clone (see  
 CC T68811). Flk-1bp can be used to isolate cells to which it binds,  
 CC for use in studying the roles of such cells and of flk-1 in  
 CC vasculogenesis and angiogenesis. Angiogenesis inhibition or  
 CC increased vascularisation may be clinically desirable (e.g. to  
 CC suppress solid tumour growth or in wound healing, respectively).  
 CC The flk-1bp can be administered to treat conditions with defective  
 CC or insufficient flk-1. Polypeptides may also act as carriers to  
 CC deliver diagnostic/therapeutic agents to cells to which flk1-bp  
 CC binds, to generate antibodies, and to identify flk-1bp antagonists  
 CC useful for treating flk-1bp mediated conditions.  
 XX  
 SQ Sequence 419 AA;  
  
 Query Match 99.0%; Score 721; DB 18; Length 419;  
 Best Local Similarity 99.3%; Pred. No. 2.2e-74;  
 Matches 136; Conservative 0; Mismatches 1; Indels 0; Gaps 0;  
  
 Qy 1 GPREAPAAAAFESGLDLSDAEPDAGEATAYASKDLEEQLRSVSSVDELMTVLYPEYWK 60  
 |  
 Db 21 gpreapaaaafesgldlsdaepdageatayaskdleeqrlsvssvdelmtvlypeywk 80  
  
 Qy 61 YKQQLRKGWQHNRQANLNSRTEETIKFAAAHTNTEILKSIDNEWRTQCMPEVCIDV 120  
 |

Db 81 ykcqlrkggwqhnreqanlnsrteetikfaaahynteilksidnewrktqcmprevcidv 140  
Qy 121 GKEFGVATNTFFKPPCV 137  
|||||  
Db 141 gkefgvatntffkppcv 157

RESULT 8  
Y22320  
ID Y22320 standard; Protein; 419 AA.  
XX  
AC Y22320;  
XX  
DT 22-SEP-1999 (first entry)  
XX  
DE Full length human VEGF2 protein sequence.  
XX  
KW VEGF2; vascular endothelial growth factor 2; angiogenesis; bone damage;  
KW endothelial cell proliferation; tissue damage; therapy.  
XX  
OS Homo sapiens.  
XX  
PN US5932540-A.  
XX  
PD 03-AUG-1999.  
XX  
PF 24-DEC-1997; 97US-0999811.  
XX  
PR 24-DEC-1997; 97US-0999811.  
PR 08-MAR-1994; 94US-0207550.  
PR 06-JUN-1995; 95US-0465968.  
XX  
PA (HUMA-) HUMAN GENOME SCI INC.  
XX  
PI Cao L, Hu J, Rosen CA;  
XX  
DR WPI; 1999-443606/37.  
DR N-PSDB; X84837.  
XX  
PT Vascular endothelial growth factor 2 for wound healing and vascular  
PT repair  
XX  
PS Claim 1; Fig 1; 49pp; English.  
XX  
CC This sequence is the vascular endothelial growth factor 2 (VEGF2),  
CC of the invention. The isolated polypeptide is useful for stimulating  
CC angiogenesis, by promoting the proliferation of endothelial cells, for  
CC the treatment of a wound, or for the treatment of tissue or bone damage.  
XX  
SQ Sequence 419 AA;

Query Match 99.0%; Score 721; DB 20; Length 419;  
Best Local Similarity 99.3%; Pred. No. 2.2e-74;  
Matches 136; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 1 GPREAPAAAAFESGLDLSDAEPDAGEATAYASKDLEEQLRSVSSVDELMTVLYPEYWK 60  
|||||  
Db 21 gpreapaaaaafesgldlsdaepdageatayaskdleeqlrsvssvdelmtvlypeywk 80  
  
Qy 61 YKCQLRKGGWQHNRQANLNSRTEETIKFAAAHTNTEILKSIDNEWRKTQCMPREVCIDV 120  
|||||  
Db 81 ykcqlrkggwqhnreqanlnsrteetikfaaahynteilksidnewrktqcmprevcidv 140  
  
Qy 121 GKEFGVATNTFFKPPCV 137  
|||||  
Db 141 gkefgvatntffkppcv 157

RESULT 1

US-08-999-811-2  
; Sequence 2, Application US/08999811  
; Patent No. 5932540  
; GENERAL INFORMATION:  
; APPLICANT: HU, JING-SHAN  
; APPLICANT: ROSEN, CRAIG A.  
; APPLICANT: CAO, LIANG  
; TITLE OF INVENTION: VASCULAR ENDOTHELIAL GROWTH FACTOR 2  
; NUMBER OF SEQUENCES: 15  
; CORRESPONDENCE ADDRESS:  
; ADDRESSEE: STERNE, KESSLER, GOLDSTEIN & FOX  
; STREET: 1100 NEW YORK AVENUE  
; CITY: WASHINGTON  
; STATE: DC  
; COUNTRY: USA  
; ZIP: 20005  
; COMPUTER READABLE FORM:  
; MEDIUM TYPE: Floppy disk  
; COMPUTER: IBM PC compatible  
; OPERATING SYSTEM: PC-DOS/MS-DOS  
; SOFTWARE: PatentIn Release #1.0, Version #1.30  
; CURRENT APPLICATION DATA:  
; APPLICATION NUMBER: US/08/999,811  
; FILING DATE: HEREWITH  
; CLASSIFICATION:  
; PRIOR APPLICATION DATA:  
; APPLICATION NUMBER: US 08/207,550  
; FILING DATE: 8-MAR-1994  
; PRIOR APPLICATION DATA:  
; APPLICATION NUMBER: US 08/465,968  
; FILING DATE: 06-JUN-1995  
; ATTORNEY/AGENT INFORMATION:  
; NAME: MARKOWICZ, KAREN R.  
; REGISTRATION NUMBER: 36,351  
; REFERENCE/DOCKET NUMBER: 1488.1000004  
; TELECOMMUNICATION INFORMATION:  
; TELEPHONE: (202)371-2600  
; TELEFAX: (202)371-2540  
; INFORMATION FOR SEQ ID NO: 2:  
; SEQUENCE CHARACTERISTICS:  
; LENGTH: 419 amino acids  
; TYPE: amino acid  
; TOPOLOGY: linear  
; MOLECULE TYPE: protein  
US-08-999-811-2

Query Match 99.0%; Score 721; DB 2; Length 419;  
Best Local Similarity 99.3%; Pred. No. 6.8e-80;  
Matches 136; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 1 GPREAPAAAAFESGLDLSDAEPDAGEATAYASKDLEEQLRSVSSVDELMTVLYPEYWK 60  
|  
Db 21 GPREAPAAAAFESGLDLSDAEPDAGEATAYASKDLEEQLRSVSSVDELMTVLYPEYWK 80  
|  
Qy 61 YKQQLRKGGWQHNRQANLNSRTEETIKFAAAHTNTEILKSIDNEWRKTCMPREVCIDV 120  
|  
Db 81 YKQQLRKGGWQHNRQANLNSRTEETIKFAAAHYNTEILKSIDNEWRKTCMPREVCIDV 140  
|  
Qy 121 GKEFGVATNTFFKPPCV 137  
|  
Db 141 GKEFGVATNTFFKPPCV 157

SEQ ID NO: 3, 21-419

RESULT 1  
US-08-795-430-8  
; Sequence 8, Application US/08795430  
; Patent No. 6130071

```

; GENERAL INFORMATION:
; APPLICANT: Alitalo, Kari
; APPLICANT: Joukov, Vladimir
; TITLE OF INVENTION: Vascular Endothelial Growth Factor C (VEGF-C)
; TITLE OF INVENTION: Protein and Gene, Mutants Thereof, and Uses Thereof
; NUMBER OF SEQUENCES: 57
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Marshall, O'Toole, Gerstein, Murray & Borun
; STREET: 6300 Sears Tower, 233 South Wacker Drive
; CITY: Chicago
; STATE: Illinois
; COUNTRY: United States of America
; ZIP: 60606-6402
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/795,430
; FILING DATE:
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: PCT/FI96/00427
; FILING DATE: 01-AUG-1996
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/671,573
; FILING DATE: 28-JUN-1996
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/601,132
; FILING DATE: 14-FEB-1996
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/585,895
; FILING DATE: 12-JAN-1996
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/510,133
; FILING DATE: 01-AUG-1995
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/340,011
; FILING DATE: 14-NOV-1994
; ATTORNEY/AGENT INFORMATION:
; NAME: Gass, David A.
; REGISTRATION NUMBER: 38,153
; REFERENCE/DOCKET NUMBER: 28967/33691
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 312/474-6300
; TELEFAX: 312/474-0448
; TELEX: 25-3856
; INFORMATION FOR SEQ ID NO: 8:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 419 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-08-795-430-8

```

```

Query Match          99.7%; Score 2228; DB 3; Length 419;
Best Local Similarity 99.7%; Pred. No. 5.5e-193;
Matches 398; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

```

```

Qy      1 GPREAPAAAAAFESGLDLSDAEPDAGEATAYASKDLEEQLRVSSVDELMTVLYPEYWKM 60
|
Db      21 GPREAPAAAAAFESGLDLSDAEPDAGEATAYASKDLEEQLRVSSVDELMTVLYPEYWKM 80
|
Qy      61 YKQLRKGGWQHNREQANLNSRTEETIKFAAAHTNTEILKSIDNEWRKTCMPREVCIDV 120
|
Db      81 YKQLRKGGWQHNREQANLNSRTEETIKFAAAHYNTEILKSIDNEWRKTCMPREVCIDV 140
|
Qy     121 GKEFGVATNTFFKPPCVSVYRCGGCCNSEGLQCMNTSTS YLSKTLFEITVPLSQGPKPVT 180
|

```

Db 141 GKEFGVATNTFFKPPCVSVYRCGGCCNSEGLQCMNTSTS YLSKTLFEITVPLSQGPKPVT 200

Qy 181 ISFANHNTSCRCMSKLDVYRQVHSIIRSLPATLPQCAANKTCPTNYMWNHICRCLAQE 240  
 |||

Db 201 ISFANHNTSCRCMSKLDVYRQVHSIIRSLPATLPQCAANKTCPTNYMWNHICRCLAQE 260

Qy 241 DFMFSSDAGDDSTDGFHDICGPNKELDEETCQCVCRAGLRPASCGPHKELDRNSCQCVCCK 300  
 |||

Db 261 DFMFSSDAGDDSTDGFHDICGPNKELDEETCQCVCRAGLRPASCGPHKELDRNSCQCVCCK 320

Qy 301 NKLFPSCQGANREFDENTCQCVCCKRTCPRNQPLNPGKCACECTESPQKLLKGKKFHHQT 360  
 |||

Db 321 NKLFPSCQGANREFDENTCQCVCCKRTCPRNQPLNPGKCACECTESPQKLLKGKKFHHQT 380

Qy 361 CSCYRRPCTNRQKACEPGFSYSEEVCRVPSYWKRPQMS 399  
 |||

Db 381 CSCYRRPCTNRQKACEPGFSYSEEVCRVPSYWKRPQMS 419

RESULT 2

US-08-999-811-2

; Sequence 2, Application US/08999811

; Patent No. 5932540

; GENERAL INFORMATION:

; APPLICANT: HU, JING-SHAN

; APPLICANT: ROSEN, CRAIG A.

; APPLICANT: CAO, LIANG

; TITLE OF INVENTION: VASCULAR ENDOTHELIAL GROWTH FACTOR 2

; NUMBER OF SEQUENCES: 15

; CORRESPONDENCE ADDRESS:

; ADDRESSEE: STERNE, KESSLER, GOLDSTEIN & FOX

; STREET: 1100 NEW YORK AVENUE

; CITY: WASHINGTON

; STATE: DC

; COUNTRY: USA

; ZIP: 20005

; COMPUTER READABLE FORM:

; MEDIUM TYPE: Floppy disk

; COMPUTER: IBM PC compatible

; OPERATING SYSTEM: PC-DOS/MS-DOS

; SOFTWARE: PatentIn Release #1.0, Version #1.30

; CURRENT APPLICATION DATA:

; APPLICATION NUMBER: US/08/999,811

; FILING DATE: HERewith

; CLASSIFICATION:

; PRIOR APPLICATION DATA:

; APPLICATION NUMBER: US 08/207,550

; FILING DATE: 8-MAR-1994

; PRIOR APPLICATION DATA:

; APPLICATION NUMBER: US 08/465,968

; FILING DATE: 06-JUN-1995

; ATTORNEY/AGENT INFORMATION:

; NAME: MARKOWICZ, KAREN R.

; REGISTRATION NUMBER: 36,351

; REFERENCE/DOCKET NUMBER: 1488.1000004

; TELECOMMUNICATION INFORMATION:

; TELEPHONE: (202)371-2600

; TELEFAX: (202)371-2540

; INFORMATION FOR SEQ ID NO: 2:

; SEQUENCE CHARACTERISTICS:

; LENGTH: 419 amino acids

; TYPE: amino acid

; TOPOLOGY: linear

; MOLECULE TYPE: protein

US-08-999-811-2

Query Match 99.5%; Score 2224; DB 2; Length 419;

Best Local Similarity 99.5%; Pred. No. 1.3e-192;

Matches 397; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Qy 1 GPREAPAAAAFESGLDLSDAEPDAGEATAYASKDLEEQLRSVSSVDELMTVLYPEYWK 60  
 Db 21 GPREAPAAAAFESGLDLSDAEPDAGEATAYASKDLEEQLRSVSSVDELMTVLYPEYWK 80  
 Qy 61 YKQLRKGGWQHNRQANLNSRTEETIKFAAAHTNTEILKSIDNEWRTQCMPEVCI 120  
 Db 81 YKQLRKGGWQHNRQANLNSRTEETIKFAAAHYNTEILKSIDNEWRTQCMPEVCI 140  
 Qy 121 GKEFGVATNTFFKPPCVSVYRCGGCCNSEGLQCMNTSTSLSKTLFEITVPLSQGPKPVT 180  
 Db 141 GKEFGVATNTFFKPPCVSVYRCGGCCNSEGLQCMNTSTSLSKTLFEITVPLSQGPKPVT 200  
 Qy 181 ISFANHTSCRCMSKLDVYRQVHSIIRSLPATLPQCAANKTCPTNYMWNHICRCLAE 240  
 Db 201 ISFANHTSCRCMSKLDVYRQVHSIIRSLPATLPQCAANKTCPTNYMWNHICRCLAE 260  
 Qy 241 DFMFSSDAGDDSTDGFHDICGPNKELDEETCQCVCRAGLRPASCGPHKELDRNSCQCVC 300  
 Db 261 DFMFSSDAGDDSTDGFHDICGPNKELDEETCQCVCRAGLRPASCGPHKELDRNSCQCVC 320  
 Qy 301 NKLFPSCGANREFDENTCQCVCCKRTCPRNQPLNPGKCACECTESPQKLLKGKKFHHQT 360  
 Db 321 NKLFPSCGANREFDENTCQCVCCKRTCPRNQPLNPGKCACECTESPQKLLKGKKFHHQT 380  
 Qy 361 CSCYRRPCTNRQKACEPGFSYSEEVCRVPSYWKRPQMS 399  
 Db 381 CSCYRRPCTNRQKACEPGFSYSEEVCRVPSYWRPQMS 419

RESULT 4

US-09-042-105-18

; Sequence 18, Application US/09042105

; Patent No. 6040157

; GENERAL INFORMATION:

; APPLICANT: HU, JING-SHAN

; APPLICANT: ROSEN, CRAIG A.

; APPLICANT: CAO, LIANG

; TITLE OF INVENTION: VASCULAR ENDOTHELIAL GROWTH FACTOR 2

; NUMBER OF SEQUENCES: 35

; CORRESPONDENCE ADDRESS:

; ADDRESSEE: STERNE, KESSLER, GOLDSTEIN & FOX

; STREET: 1100 NEW YORK AVENUE

; CITY: WASHINGTON

; STATE: DC

; COUNTRY: USA

; ZIP: 20005

; COMPUTER READABLE FORM:

; MEDIUM TYPE: Floppy disk

; COMPUTER: IBM PC compatible

; OPERATING SYSTEM: PC-DOS/MS-DOS

; SOFTWARE: PatentIn Release #1.0, Version #1.30

; CURRENT APPLICATION DATA:

; APPLICATION NUMBER: US/09/042,105

; FILING DATE: HEREWITH

; CLASSIFICATION:

; PRIOR APPLICATION DATA:

; APPLICATION NUMBER: US 08/207,550

; FILING DATE: 8-MAR-1994

; CLASSIFICATION:

; PRIOR APPLICATION DATA:

; APPLICATION NUMBER: US 08/465,968

; FILING DATE: 06-JUN-1995

; CLASSIFICATION:

; PRIOR APPLICATION DATA:

; APPLICATION NUMBER: TO BE ASSIGNED

; FILING DATE: 24-DEC-1997

; CLASSIFICATION:

; ATTORNEY/AGENT INFORMATION:

; NAME: ERIC K. STEFFE

; REGISTRATION NUMBER: 36,688

```

; REFERENCE/DOCKET NUMBER: 1488.1000003/EKS
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (202)371-2600
; TELEFAX: (202)371-2540
; INFORMATION FOR SEQ ID NO: 18:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 419 amino acids
; TYPE: amino acid
; STRANDEDNESS:
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-09-042-105-18

```

```

Query Match          99.5%; Score 2224; DB 3; Length 419;
Best Local Similarity 99.5%; Pred. No. 1.3e-192;
Matches 397; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

```

```

Qy      1 GPREAPAAAAAFESGLDLSDAEPDAGEATAYASKDLEEQLRSVSSVDELMTVLYPEYWKM 60
      ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     21 GPREAPAAAAAFESGLDLSDAEPDAGEATAYASKDLEEQLRSVSSVDELMTVLYPEYWKM 80

Qy     61 YKQQLRKGGWQHNREQANLNSRTEETIKFAAAHTNTEILKSIDNEWRKTCQMPREVCIDV 120
      ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     81 YKQQLRKGGWQHNREQANLNSRTEETIKFAAAHYNTEILKSIDNEWRKTCQMPREVCIDV 140

Qy    121 GKEFGVATNTFFKPPCVSVYRCGGCCNSEGLQCMNTSTSYLSKTLFEITVPLSQGPKPVT 180
      ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    141 GKEFGVATNTFFKPPCVSVYRCGGCCNSEGLQCMNTSTSYLSKTLFEITVPLSQGPKPVT 200

Qy    181 ISFANHNSCRMSKLDVYRQVHSIIIRSLPATLPQCAANKTCPTNYMWNHICRCLAQE 240
      ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    201 ISFANHNSCRMSKLDVYRQVHSIIIRSLPATLPQCAANKTCPTNYMWNHICRCLAQE 260

Qy    241 DFMFSSDAGDDSTDGFHDICGPNKELDEETCQCVCVCRAGLRPASCGPHKELDRNSCQCVCK 300
      ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    261 DFMFSSDAGDDSTDGFHDICGPNKELDEETCQCVCVCRAGLRPASCGPHKELDRNSCQCVCK 320

Qy    301 NKLFPSCGANREFDENTCQCVCCKRTCPRNQPLNPGKCACECTESPOKCLLKGGKFFHHQT 360
      ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    321 NKLFPSCGANREFDENTCQCVCCKRTCPRNQPLNPGKCACECTESPOKCLLKGGKFFHHQT 380

Qy    361 CSCYRRPCTNRQKACEPGFSYSEEVCRVCVPSYWQRPQMS 399
      ||||||||||||||||||||||||||||:|||||
Db    381 CSCYRRPCTNRQKACEPGFSYSEEVCRVCVPSYWQRPQMS 419

```